Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Modernizing the E-Rate Program for Schools and Libraries	)	WC Docket No. 13-184
	)	

REPLY COMMENTS OF PCIA – THE WIRELESS INFRASTRUCTURE ASSOCIATION AND THE HETNET FORUM

PCIA – The Wireless Infrastructure Association and The HetNet Forum ("PCIA")[1] respectfully submit these reply comments on behalf of their members in response to the Federal Communications Commission's ("FCC" or "Commission") *Notice of Proposed Rulemaking* seeking to review and modernize the E-Rate program.[2] The record in this proceeding confirms the need for prompt reforms to the E-Rate program that maintain technology neutrality principles and adopt a "whole network" approach to E-Rate funding. Commenters also agree that the Commission should consider funding proposals that encourage state and local governments to make policy changes that can reduce build costs. Taking these steps will help unlock the full benefits of digital learning.

I. THE RECORD ILLUSTRATES THE POTENTIAL OF BROADBAND-ENABLED DIGITAL LEARNING MODELS

The hundreds of comments filed in this proceeding evidence the need for the Commission to quickly enact reforms to the E-Rate program to support high-speed Internet

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[1] PCIA is the national trade association representing the wireless infrastructure industry. The HetNet Forum, formerly The DAS Forum, is a membership section of PCIA dedicated to the advancement of heterogeneous wireless networks.

[2] Modernizing the E-rate Program for Schools and Libraries, WC Docket No. 13-184, *Notice of Proposed Rulemaking*, FCC 13-100 (rel. July 23, 2013) ("*E-Rate NPRM*").

connectivity and deliver on the promise of digital learning. Commenters agreed with PCIA that E-Rate has successfully brought Internet access to schools and libraries across the country.[3] Describing broadband as "revolutionizing education,"[4] parties highlighted an educational system transformed by broadband: interactive digital curriculum,[5] online portals,[6] personalized learning,[7] educational assessments,[8] collaborative learning applications,[9] and 1:1 device initiatives.[10] The FCC should build on this success. By acknowledging the consensus chronicled in the record that supports E-Rate modernization, the Commission can unleash digital learning's full potential.

As the record shows, the outlook is bright for the broadband-enabled learning environment of tomorrow. Static, paper-based textbooks will be replaced by adaptive digital curriculum, capable of monitoring student engagement and assisting teachers in assessing "individual student needs in real-time."[11] Equipped with Internet enabled mobile devices, students will research, communicate, and collaborate in dynamic fashion.[12] Blended schools will enable students to "watch lectures online at home and use class time for interactive discussion" or engage in online only schools that provide learning opportunities otherwise unavailable.[13] Wireless technologies and 1:1 initiatives will extend both the school day and the classroom

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[3] PCIA Comments at 1.

[4] Qualcomm Comments at 2; *see also* Verizon and Verizon Wireless Comments at 3.

[5] Cisco Comments at 5; International Association for K-12 Online Learning Comments at 24.

[6] Qualcomm Comments at 2.

[7] Education Coalition Comments at 28; State Educational Technology Directors Association Comments at 12-13.

[8] Verizon and Verizon Wireless Comments at 3; Education Coalition Comments at 9.

[9] Qualcomm Comments at 2-3; Verizon and Verizon Wireless Comments at 3; CTIA Comments at 3-4.

[10] State of Arkansas Comments at 12; National Association of Elementary School Principals Comments at 4.

[11] Education Coalition Comments at 9.

[12] Education Coalition Comments at 10; Qualcomm Comments at 2-3.

[13] Education Coalition Comments at 11-12; *see also* Verizon and Verizon Wireless Comments at 3; Los Angeles Unified School District Comments at 2.

walls, enabling 24/7 learning in school, at home, and places in-between.[14] Such developments will drive dramatic increases in bandwidth demand,[15] with Qualcomm noting that "teachers and students around the country are successful embracing anywhere/anytime 3G and 4G mobile broadband connectivity."[16] To improve coverage and capacity, schools will adopt distributed antenna systems ("DAS") solutions, enhancing in-building coverage and streamlining their communications needs.[17] Commenters clearly establish that these "new ways of teaching and learning" will improve educational outcomes[18] and "ensure the long-term success of America's workforce."[19]

Schools and libraries' embrace of Internet connectivity mirrors the trend lines in the U.S. more broadly. As of August 2013, 70 percent of households throughout the country connect to broadband – a figure that jumps to 80 percent if mobile broadband is included.[20] The FCC has rightly focused on increasing the national broadband adoption rate, recognizing the challenges presented by poor digital literacy and overcoming concerns by some that Internet connectivity is irrelevant.[21] Our classrooms are no different. By modernizing E-Rate, the Commission can

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[14] Qualcomm Comments at 6-7; State of Arkansas Comments at 12; National Association of Elementary School Principals Comments at 4.

[15] Cisco Comments at 25.

[16] Qualcomm Comments at 2; *see also* Sprint Comments at 7.

[17] *See* David Galassi, *Delivering Cellular Service on Campus*, UNIVERSITY BUSINESS (Sept. 2013), http://www.universitybusiness.com/article/cellular-service.

[18] Education Coalition Comments at 12-13.

[19] Qualcomm Comments at iii; *see also* Verizon and Verizon Wireless Comments at 3.

[20] Pew Internet & American Life Project "Home Broadband 2013," August 26, 2013.

[21] *See, e.g.*, CONNECT2COMPETE (CONNECT2COMPETE), www.connect2compete.org; Broadband Adoption Taskforce, Presentation to the FCC (Nov. 30, 2011), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-311281A1.pdf.

bridge a potential educational digital divide[22] and provide students with "valuable 21st century mobile skills."[23]

II. COMMENTERS EMPHASIZE THE IMPORTANCE OF MAINTAINING TECHNOLOGY NEUTRALITY PRINCIPLES IN E-RATE REFORM

The record contains widespread support for retaining E-Rate's principles of technological and competitive neutrality. As Sprint and AT&T explained, technological neutrality "has long been a cornerstone principle" for E-Rate.[24] From wireline,[25] wireless,[26] and cable providers[27] to state educational agencies from Alaska[28] to Arkansas,[29] commenters agree with PCIA that the Commission should avoid tilting "the playing field in favor of a particular technology or. . . category of service provider."[30] Commenters also correctly note that the Commission adopted competitive neutrality as a touchstone for all universal service support mechanisms[31] – a decision affirmed by courts.[32] Accordingly, the Commission should ensure that any E-Rate reform "allow[s] each applicant to select the competitive alternative which best meets its needs."[33]

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[22] California Department of Education Comments at 10; Qualcomm Comments at ii; Connected Nation Comments at 10.

[23] Qualcomm Comments at 7.

[24] Sprint Comments at 1; AT&T Comments at 4.

[25] CenturyLink Comments at iv.

[26] CTIA Comments at 8.

[27] National Cable & Telecommunications Association Comments at 9.

[28] *See* State of Alaska Department of Education and Early Development and The Alaska State Library Comments at 6.

[29] State of Arkansas Comments at 14.

[30] Sprint Comments at 3. *See also* National Cable & Telecommunications Association Comments at 9 (echoing this point, urging the Commission to refrain from "assuming that one technology … is the best choice in every scenario.").

[31] Sprint Comments at 2 (citing *Federal-State Joint Board on Universal Service First Report and Order*, 12 FCC Rcd 8776, 8801-8802,¶¶ 47-48 (1997) (footnotes omitted)).

[32] Sprint Comments at 3 (citing *Alenco Communications, Inc. v. FCC*, 201 F.3d 608, 622 (5th Cir. 2000)).

[33] Sprint Comments at 7.

PCIA agrees that the FCC should avoid structuring E-Rate as a one-size-fits-all program.[34] Commenters cited numerous variables that influence the most effective broadband connection for an applicant: user base, traffic type, device utilization, and geography and topography.[35] Depending on the calculus for that particular party, these factors will drive different broadband configurations.[36] Filers noted that in some rural areas, fixed wireless may offer the most cost-effective service,[37] while in other locales, cable or other technologies may provide the most efficient, high-capacity Internet connection.[38] Wireless providers can also use small cell technology to improve capacity and coverage across campuses and in buildings.[39] By retaining the principle of technology and competitive neutrality, the Commission can capitalize on market forces "on all platforms. . . rather than picking winners and losers."[40]

III. THE RECORD SUPPORTS ADOPTING A "WHOLE NETWORK" APPROACH TO E-RATE FUNDING

PCIA agrees with numerous commenters that the Commission should adopt a "whole network" approach to E-Rate funding.[41] A whole network approach allows for greater flexibility in designing, managing, and upgrading broadband deployments, from broadband pipe to classroom connectivity.[42] More broadly, as one commenter observed, a whole network approach

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[34] *See* State of Alaska Department of Education and Early Development and The Alaska State Library Comments at 3; State of Arkansas Comments at 4, 7; California Department of Education Comments at 8; Sprint Comments at 3.

[35] Sprint Comments at 4-5; *see also* AT&T Comments at 13.

[36] Cisco Comments at 25; Sprint Comments at 5.

[37] Wireless Internet Service Providers Association Comments at 2.

[38] National Cable and Telecommunications Association Comments at 3-4.

[39] Sprint Comments at 8.

[40] Competitive Carriers Association Comments at 2.

[41] City of Boston Comments at 5-6; Cisco Comments at 7; Comcast Comments at 5-6; Massachusetts Department of Telecommunications and Cable Comments at 5-6.

[42] Comcast Comments at 5.

"better reflects and adapts to market realities as they related to services provisioned to consumers."[43]

Commenters concur with PCIA that the Commission should provide applicants with the flexibility to design and maintain networks, "giving applicants the local control they need to make informed decisions that are best for them."[44] Sprint appropriately notes that "[a] network configuration that is highly efficient and which makes sense for one large urban school or school district may be inappropriate for a different large urban school, for a large rural school, or for a small school."[45]

Other commenters discussed the inefficiencies – and internal network neglect – generated by the current priority system.[46] All too often, as the record demonstrates, these inefficiencies and network neglect are responsible for a school's poor broadband connection, depriving students and educators of the high-speed, ubiquitous connectivity necessary for a 21st century learning environment.[47] Technological innovation, moreover, "can change the relative economics and network performance of various network solutions."[48] The constant state of innovation necessitates technological neutrality, and will ensure that the "E-rate rules allow each applicant to select the competitive alternative which best meets its needs."[49]

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[43] Massachusetts Department of Telecommunications and Cable Comments at 5-6.

[44] Los Angeles Unified School District Comments at 8. S*ee also* Comcast Comments at 21-23.

[45] Sprint Comments at 3.

[46] CenturyLink Comments at 10; Cisco Comments at 7.

[47] Cisco Comments at 7-8.

[48] Sprint Comments at 3.

[49] Sprint Comments at 7.

IV. COMMENTERS SUPPORT EXPLORING FUNDING PROPOSALS THAT ENCOURAGE STATES AND LOCALITIES TO REDUCE BUILD COSTS

Finally, commenters approved of PCIA's suggestion that the FCC should explore funding proposals set forth in the record aimed at incentivizing state and local governments to streamline regulatory roadblocks to broadband infrastructure deployment.[50] For example, Connected Nation suggested offering an additional discount level to applicants demonstrating that the proposed broadband funding will be incorporated into a locality's broader technology strategy.[51] Such proposals can potentially generate cost savings while speeding infrastructure deployment.[52]

V. CONCLUSION

For the foregoing reasons, PCIA urges the Commission to adopt reforms to the E-Rate program that maintain technology neutrality principles; support a "whole networks" approach to funding, including support for internal networks; provide greater flexibility in prioritization of upgrades; and investigate how to incentivize state and local governments to streamline regulatory barriers that might impede development of the wireline and wireless infrastructure that supports the mobile classroom.

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[50] PCIA Comments at 7-9.

[51] Connected Nation Comments at 17.

[52] PCIA Comments at 7-8; Connected Nation Comments at 17-19.

Respectfully submitted,

PCIA – THE WIRELESS
INFRASTRUCTURE ASSOCIATION
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